TORQ Analysis of Prepress Technicians and Workers to Graphic Designers

INPUT SECTION:

Transfer	Title	O*NET	Filters		
From Title:	Prepress Technicians and Workers	51-5022.00	Abilities:	Importance LeveL: 50	Weight: 1
To Title:	Graphic Designers	27-1024.00	Skills:	Importance LeveL: 69	Weight: 1
Labor Market Area:	Maine Statewide		Knowledge:	Importance Level: 69	Weight: 1

OUTPUT SECTION:

Grand TORQ:		81

Ability TORQ		Skills TORQ		Knowledge TORQ	
Level	67	Level	92	Level	84

Gaps To Narrow if Possible				Upgrade These Skills				Knowledge to Add			
Ability	Level	Gap	Impt	Skill	Level	Gap	Impt	Knowledge	Level	Gap	Impt
Originality	64	45	90	Time Management	63	4	73	No Knowledge Upgrades Required!			
Fluency of Ideas	57	36	75								
Oral Expression	55	36	59								
Oral Comprehension	55	30	68								
Speech Recognition	42	30	68								
Speech Clarity	41	29	68								
Inductive Reasoning	51	29	65								
Category Flexibility	55	31	59								
Visualization	60	20	72								
Written Expression	46	28	50								
Near Vision	67	18	75								
Selective Attention	42	21	56								
Deductive Reasoning	51	22	53								
Written Comprehension	48	18	56								
Problem Sensitivity	46	16	53								
Finger Dexterity	48	14	56								
Information Ordering	53	13	59								

Visual Color Discrimination	55	13	59
Arm-Hand Steadiness	42	3	50

LEVEL and IMPT (IMPORTANCE) refer to the Target Graphic Designers. GAP refers to level difference between Prepress Technicians and Workers and Graphic Designers.

ASK ANALYSIS

Ability Level Comparison - Abilities with importance scores over 50

Description	Prepress Technicians and Workers	Graphic Designers	Importance
Originality	19	64	90
Fluency of Ideas	21	57	75
Near Vision	49	67	75
Visualization	40	60	72
Oral Comprehension	25	55	68
Speech Recognition	12	42	68
Speech Clarity	12	41	68
Inductive Reasoning	22	51	65
Oral Expression	19	55	59
Information Ordering	40	53	59
Category Flexibility	24	55	59
Visual Color Discrimination	42	55	59
Written Comprehension	30	48	56
Selective Attention	21	42	56
Finger Dexterity	34	48	56
Problem Sensitivity	30	46	53
Deductive Reasoning	29	51	53
Written Expression	18	46	50
Arm-Hand Steadiness	39	42	50

Skill Level Comparison - Abilities with importance scores over 69

Description	Prepress Technicians and Workers	Graphic Designers	Importance
Time Management	59	63	73
Coordination	64	63	72

Knowledge Level Comparison - Knowledge with importance scores over 69

Description	Prepress Technicians and Workers	Graphic Designers	Importance
Computers and Electronics	72	62	78
English Language	61	55	77
Communications and Media	53	52	69

Experience & Education Comparison

Related Work Experience Comparison

Description	Prepress Technicians and Workers	Graphic Designers
10+ years	0%	0%
8-10 years	10%	0%
6-8 years	0%	0%
4-6 years	22%	3%
2-4 years	13%	9%
1-2 years	25%	37%
6-12 months	22%	19%
3-6 months	2%	1%
1-3 months	0%	0%
0-1 month	1%	0%
None	2%	27%

Required Education Level Comparison

Description	Prepress Technicians and Workers	Graphic Designers
Doctoral	0%	0%
Professional Degree	0%	0%
Post-Masters Cert	0%	0%
Master's Degree	0%	0%
Post-Bachelor Cert	0%	0%
Bachelors	0%	33%
AA or Equiv	23%	11%
Some College	23%	20%
Post-Secondary Certificate	27%	12%
High Scool Diploma or GED	25%	20%
No HSD or GED	0%	1%

Prepress Technicians and Workers	Graphic Designers

Most Common Educational/Training Requirement:

Prepress Technicians and Workers	Graphic Designers
Postsecondary vocational award	Bachelor's degree

Job Zone Comparison

3 - Job Zone Three: Medium Preparation Needed	4 - Job Zone Four: Considerable Preparation Needed
Previous work-related skill, knowledge, or experience is required for these occupations. For example, an electrician must have completed three or four years of apprenticeship or several years of vocational training, and often must have passed a licensing exam, in order to perform the job.	A minimum of two to four years of work-related skill, knowledge, or experience is needed for these occupations. For example, an accountant must complete four years of college and work for several years in accounting to be considered qualified.
Most occupations in this zone require training in vocational schools, related on-the-job experience, or an associate's degree. Some may require a bachelor's degree.	Most of these occupations require a four - year bachelor's degree, but some do not.
Employees in these occupations usually need one or two years of training involving both on-the-job experience and informal training with experienced workers.	Employees in these occupations usually need several years of work-related experience, on-the-job training, and/or vocational training.

Tasks

Prepress Technicians and Workers	Graphic Designers
Core Tasks	Core Tasks

Generalized Work Activities:

- Communicating with Supervisors, Peers, or Subordinates - Providing information to supervisors, co-workers, and subordinates by telephone, in written form, e-mail, or in person.
- Getting Information - Observing, receiving, and otherwise obtaining information from all relevant sources.
- Making Decisions and Solving Problems - Analyzing information and evaluating results to choose the best solution and solve problems.
- Interacting With Computers - Using computers and computer systems (including hardware and software) to program, write software, set up functions, enter data, or process information.
- Organizing, Planning, and Prioritizing Work - Developing specific goals and plans to prioritize, organize, and accomplish your work.

Specific Tasks

Occupation Specific Tasks:

- Activate scanners to produce positive or negative films for the black-and-white, cyan, yellow, and magenta separations from each original copy.
- Analyze originals to evaluate color density, gradation highlights, middle tones, and shadows, using densitometers and knowledge of light and color.
- Arrange and mount typeset material and illustrations into paste-ups for printing reproduction, based on artists' or editors' layouts.
- Correct minor film mask defects with litho tape or opaquing fluid.
- Enter, position, and alter text size, using computers, to make up and arrange pages so that printed materials can be produced.
- Enter, store, and retrieve information on computer-aided equipment.
- Examine finished plates to detect flaws, verify conformity with master plates, and measure dot sizes and centers, using light-boxes and microscopes.
- Examine photographic images for obvious imperfections prior to plate making.
- Examine unexposed photographic plates to detect flaws or foreign particles prior to printing.
- Inspect developed film for specified results and quality, using magnifying glasses and scopes; forward acceptable negatives or positives to other workers or to customers.
- Lower vacuum frames onto plate-film assemblies, activate vacuums to establish contact between film and plates, and set

Generalized Work Activities:

- Thinking Creatively - Developing, designing, or creating new applications, ideas, relationships, systems, or products, including artistic contributions.
- Interacting With Computers - Using computers and computer systems (including hardware and software) to program, write software, set up functions, enter data, or process information.
- Getting Information - Observing, receiving, and otherwise obtaining information from all relevant sources.
- Making Decisions and Solving Problems - Analyzing information and evaluating results to choose the best solution and solve problems.
- Updating and Using Relevant Knowledge - Keeping up-to-date technically and applying new knowledge to your job.

Specific Tasks

Occupation Specific Tasks:

- Confer with clients to discuss and determine layout design.
- Create designs, concepts, and sample layouts based on knowledge of layout principles and esthetic design concepts.
- Determine size and arrangement of illustrative material and copy, and select style and size of type.
- Develop graphics and layouts for product illustrations, company logos, and Internet websites.
- Develop negatives and prints to produce layout photographs, using negative and print developing equipment and tools.
- Draw and print charts, graphs, illustrations, and other artwork, using computer.
- Key information into computer equipment to create layouts for client or supervisor.
- Mark up, paste, and assemble final layouts to prepare layouts for printer.
- Photograph layouts, using camera, to make layout prints for supervisors or clients.
- Prepare illustrations or rough sketches of material, discussing them with clients or supervisors and making necessary changes.
- Prepare notes and instructions for workers who assemble and prepare final layouts for printing.
- Produce still and animated graphics for on-air and taped portions of television news broadcasts, using electronic video equipment.
- Review final layouts and suggest improvements as needed.
- Study illustrations and photographs to

timers to activate ultraviolet lights that expose plates.

- Maintain, adjust, and clean equipment, and perform minor repairs.
- Mix solutions such as developing solutions and colored coating solutions.
- Monitor contact between cover glass and masks inside vacuum frames, in order to prevent flaws resulting from overexposure or light reflection.
- Mount negatives and plates in cameras, set exposure controls, and expose plates to light through negatives in order to transfer images onto plates.
- Operate and maintain a variety of cameras and equipment, such as process, line, halftone, and color separation cameras, enlargers, electronic scanners, and contact equipment.
- Operate and maintain laser plate-making equipment that converts electronic data to plates without the use of film.
- Operate presses to print proofs of plates, monitoring printing quality to ensure that it is adequate.
- Perform close alignment or registration of double and single flats to sensitized plates prior to exposure, in order to produce composite images.
- Perform minor deletions, additions, or corrections to completed plates, on or off printing presses, using tusche, printing ink, erasers, and needles.
- Perform tests to determine lengths of exposures, by exposing plates, scanning line copy, and comparing exposures to tone range scales.
- Place masking paper on areas of plates not covered by positives or negatives, in order to prevent exposure.
- Position and angle screens for proper exposure.
- Position color transparencies, negatives, or reflection copies on scanning drums, and mount drums and heads on scanners.
- Punch holes in light-sensitive plates and insert pins in holes to prepare plates for contact with positive or negative film.
- Remove plate-film assemblies from vacuum frames, and place exposed plates in automatic processors to develop images and dry plates.
- Reposition lamps and adjust aperture controls in order to provide high quality images.
- Scale copy for reductions and enlargements, using proportion wheels.
- Select proper types of plates according to press run lengths.
- Set scanners to specific color densities, sizes, screen rulings, and exposure adjustments, using scanner keyboards or computers.
- Transfer images from master plates to

plan presentation of materials, products, or services.
- Use computer software to generate new images.

Detailed Tasks

Detailed Work Activities:

- confer with management or users
- consult with customers concerning needs
- create art from ideas
- develop film or other photographic medium
- distinguish details in graphic arts material
- explain products to customer representatives
- identify color or balance
- identify problems or improvements
- make presentations
- obtain information from clients, customers, or patients
- operate film or sound editing equipment
- operate specialized photo equipment
- organize story elements
- paste up materials to be printed
- prepare artwork for camera or press
- prepare instructions for workers
- process photographic prints
- proofread printed or written material
- set page layout or composition
- sketch or draw subjects or items
- tell stories through musical, visual, or dramatic arts
- use computer graphics design software
- use computers to enter, access or retrieve data
- use creativity in graphics
- use creativity in industrial artistry
- use creativity to art or design work
- use film production techniques

Tools - Examples

- Desktop computers
- Digital cameras
- Computer laser printers
- Laptop computers
- Personal computers
- Photocopying equipment
- Computer scanners
- 35 millimeter cameras

unexposed plates, and immerse plates in developing solutions to develop images.

- Unload exposed film from scanners, and place film in automatic processors to develop images.

- Graphics tablets

Detailed Tasks

Detailed Work Activities:

- adjust production equipment/machinery setup
- arrange galley setups of type
- assure quality control in printing processes
- clean equipment or machinery
- compute production, construction, or installation specifications
- determine film exposure settings
- determine specifications
- develop film or other photographic medium
- distinguish colors
- distinguish details in graphic arts material
- examine products or work to verify conformance to specifications
- fabricate printing plates
- fabricate, assemble, or disassemble manufactured products by hand
- identify color or balance
- install equipment or attachments on machinery or related structures
- load or unload material or workpiece into machinery
- maintain consistent production quality
- maintain or repair industrial or related equipment/machinery
- maintain production or work records
- make independent judgment in assembly procedures
- measure, weigh, or count products or materials
- mix paint, ingredients, or chemicals, according to specifications
- monitor production machinery/equipment operation to detect problems
- operate cameras
- operate graphic reproduction equipment
- operate printing equipment/machinery
- operate scanner
- operate video recorders
- paste up materials to be printed
- perform safety inspections in manufacturing or industrial setting
- prepare artwork for camera or press
- process photographic prints
- proofread printed or written material
- read blueprints
- read production layouts

- read specifications
- read technical drawings
- read work order, instructions, formulas, or processing charts
- set page layout or composition
- set up production equipment or machinery
- strip negatives
- understand technical operating, service or repair manuals
- use color analyzer
- use computer graphics design software
- use computers to enter, access or retrieve data
- use densitometer
- use drafting or mechanical drawing techniques
- use hand or power tools
- use precision measuring tools or equipment

Labor Market Comparison

Description	Prepress Technicians and Workers	Graphic Designers	Difference
Median Wage	$ 30,620	$ 34,090	$ 3,470
10th Percentile Wage	$ 20,010	$ 22,080	$ 2,070
25th Percentile Wage	N/A	N/A	N/A
75th Percentile Wage	$ 35,650	$ 43,710	$ 8,060
90th Percentile Wage	$ 39,160	$ 51,000	$ 11,840
Mean Wage	$ 30,260	$ 35,350	$ 5,090
Total Employment - 2007	300	700	400
Employment Base - 2006	303	957	654
Projected Employment - 2016	249	1,007	758
Projected Job Growth - 2006-2016	-17.8 %	5.2 %	23.0 %
Projected Annual Openings - 2006-2016	5	30	25

National Job Posting Trends

Trend for Prepress Technicians and Workers	Trend for Graphic Designers

Job Trends from Indeed.com

— Prepress Technician — Graphic Designer
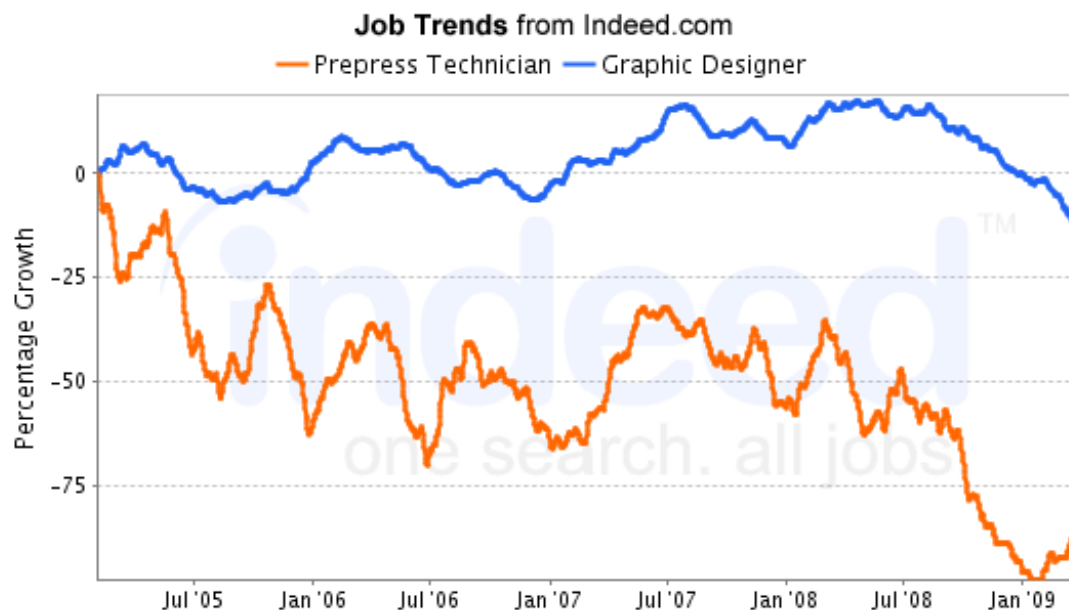
Data from [Indeed](#)

Recommended Programs

Agricultural Communication/Journalism

Agricultural Communication/Journalism. A program that prepares individuals to apply journalistic, communication, and broadcasting principles to the development, production, and transmittal of agricultural information. Includes instruction in basic journalism, broadcasting, film/video, and communication techniques; the production of technically specialized information products for agricultural audiences; and the principles of agricultural sciences and business operations needed to develop and communicate agricultural subject matter in effective ways.

No schools available for the program

Web Page, Digital/Multimedia and Information Resources Design

Web Page, Digital/Multimedia and Information Resources Design. A program that prepares individuals to apply HTML, XML, Javascript, graphics applications, and other authoring tools to the design, editing, and publishing (launching) of documents, images, graphics, sound, and multimedia products on the World Wide Web. Includes instruction in Internet theory; web page standards and policies; elements of web page design; user interfaces; vector tools; special effects; interactive and multimedia components; search engines; navigation; morphing; e-commerce tools; and emerging web technologies.

No schools available for the program

Computer Graphics

Computer Graphics. A program that focuses on the software, hardware, and mathematical tools used to represent, display, and manipulate topological, two-, and three-dimensional objects on a computer screen and that prepares individuals to function as computer graphics specialists. Includes instruction in graphics software and systems; digital multimedia; graphic design; graphics devices, processors, and standards; attributes and transformations; projections; surface identification and rendering; color theory and application; and applicable geometry and algorithms.

No schools available for the program

Design and Visual Communications

Design and Visual Communications, General. A program in the applied visual arts that focuses on the general principles and techniques for effectively communicating ideas and information, and packaging products, in digital and other formats to business and consumer audiences, and that may prepare individuals in any of the applied art media.

Institution	Address	City	URL
Maine College of Art	97 Spring St	Portland	www.meca.edu
York County Community College	112 College Drive	Wells	www.yccc.edu

Technical Theater/Theater Design and Stagecraft

Commercial and Advertising Art. A program in the applied visual arts that prepares individuals to use artistic techniques to effectively communicate ideas and information to business and consumer audiences via illustrations and other forms of digital or printed media. Includes instruction in concept design, layout, paste-up, and techniques such as engraving, etching, silkscreen, lithography, offset, drawing and cartooning, painting, collage, and computer graphics.

No schools available for the program

Industrial Design

Industrial Design. A program in the applied visual arts that prepares individuals to use artistic techniques to effectively communicate ideas and information to business and consumer audiences via the creation of effective forms, shapes, and packaging for manufactured products. Includes instruction in designing in a wide variety of plastic and digital media, prototype construction, design development and refinement, principles of cost saving, and product structure and performance criteria relevant to aesthetic design parameters.

No schools available for the program

Graphic Design

Graphic Design. A program that prepares individuals to apply artistic and computer techniques to the interpretation of technical and commercial concepts. Includes instruction in computer-assisted art and design, printmaking, concepts sketching, technical drawing, color theory, imaging, studio technique, still and life modeling, communication skills and commercial art business operations.

Institution	Address	City	URL
Maine College of Art	97 Spring St	Portland	www.meca.edu

Design and Applied Arts, Other

Design and Applied Arts, Other. Any instructional program in design and applied arts not listed above.

No schools available for the program

	Maine Statewide Promotion Opportunities for Prepress Technicians and Workers							
O*NET Code	Title	Grand TORQ	Job Zone	Employment	Median Wage	Difference	Growth	Annual Job Openings
51-5022.00	Prepress Technicians and Workers	100	3	300	$30,620.00	$0.00	-18%	5
43-9031.00	Desktop Publishers	83	3	130	$32,200.00	$1,580.00	14%	5
27-1024.00	Graphic Designers	81	4	700	$34,090.00	$3,470.00	5%	30
51-4121.07	Solderers and Brazers	79	2	1,610	$38,030.00	$7,410.00	7%	49
27-4032.00	Film and Video Editors	79	3	80	$30,810.00	$190.00	-4%	2
27-3042.00	Technical Writers	77	4	50	$46,060.00	$15,440.00	-8%	2
43-9011.00	Computer Operators	77	3	230	$33,120.00	$2,500.00	-30%	4
51-4122.00	Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders	77	2	120	$36,960.00	$6,340.00	2%	3
15-1041.00	Computer Support Specialists	75	3	1,670	$40,200.00	$9,580.00	5%	61

17-3031.02	Mapping Technicians	75	3	190	$33,210.00	$2,590.00	5%	5
43-5053.00	Postal Service Mail Sorters, Processors, and Processing Machine Operators	74	2	970	$41,950.00	$11,330.00	-12%	10
23-2091.00	Court Reporters	74	3	0	$53,640.00	$23,020.00	0%	0
51-2021.00	Coil Winders, Tapers, and Finishers	73	2	90	$31,910.00	$1,290.00	-53%	1
43-9041.02	Insurance Policy Processing Clerks	73	2	1,810	$31,380.00	$760.00	-8%	22
27-1014.00	Multi-Media Artists and Animators	73	4	70	$44,630.00	$14,010.00	9%	10

Top Industries for Graphic Designers

Industry	NAICS	% in Industry	Employment	Projected Employment	% Change
Self-employed workers, primary job	000601	21.52%	56,127	59,796	6.54%
Specialized design services	541400	10.90%	28,436	34,245	20.43%
Advertising and related services	541800	8.81%	22,967	28,505	24.11%
Printing and related support activities	323100	6.92%	18,058	14,308	-20.77%
Newspaper publishers	511110	5.30%	13,831	13,033	-5.76%
Self-employed workers, secondary job	000602	3.83%	9,979	9,934	-0.45%
Computer systems design and related services	541500	2.75%	7,169	9,679	35.02%
Management, scientific, and technical consulting services	541600	2.00%	5,228	9,333	78.52%
Management of companies and enterprises	551100	1.59%	4,136	4,768	15.28%
Colleges, universities, and professional schools, public and private	611300	1.29%	3,374	3,775	11.87%
Employment services	561300	1.07%	2,788	3,528	26.56%
Converted paper product manufacturing	322200	0.85%	2,207	1,852	-16.08%
Electronic shopping and mail-order houses	454100	0.82%	2,140	2,677	25.09%
Religious organizations	813100	0.76%	1,990	2,388	20.01%
Federal government, excluding postal service	919999	0.70%	1,824	1,725	-5.47%

Top Industries for Prepress Technicians and Workers

Industry	NAICS	% in Industry	Employment	Projected Employment	% Change

Printing and related support activities	323100	58.29%	41,328	29,471	-28.69%
Newspaper publishers	511110	15.03%	10,658	8,218	-22.90%
Converted paper product manufacturing	322200	4.22%	2,995	2,262	-24.47%
Advertising and related services	541800	1.62%	1,149	1,167	1.55%
Specialized design services	541400	1.29%	915	1,102	20.43%
Employment services	561300	0.85%	603	687	13.91%
Data processing, hosting, and related services	518200	0.73%	517	629	21.67%
Plastics product manufacturing	326100	0.67%	473	451	-4.60%
Colleges, universities, and professional schools, public and private	611300	0.58%	411	413	0.68%
Management of companies and enterprises	551100	0.53%	373	387	3.75%
Semiconductor and other electronic component manufacturing	334400	0.42%	294	232	-21.33%
Federal government, excluding postal service	919999	0.36%	254	216	-14.92%
Paper and paper product merchant wholesalers	424100	0.34%	244	234	-3.85%
State government, excluding education and hospitals	929200	0.26%	186	164	-11.69%
Manufacturing and reproducing magnetic and optical media	334600	0.22%	153	135	-11.57%